

an array of scintillators optically coupled to said photosensor array and separated therefrom by a gap, said gap filled with a member of the group consisting of air and a compliant clear film;

a clamping mechanism clamping said array of scintillators in place above and aligned with said photosensor array, wherein said clamping mechanism has a thermal coefficient of expansion less than that of said substrate; and

a flexible electrical cable electrically coupled to the photosensor array.

5. (once amended) A finished detector module assembly suitable for use in a computed tomography (CT) imaging system, said detector module comprising:

a substrate;

a photosensor array mounted on the substrate;

an array of scintillators optically coupled to said photosensor array and separated therefrom by a gap, said gap filled with a member of the group consisting of air and a compliant clear film;

a clamping mechanism clamping said array of scintillators in place above and aligned with said photosensor array, wherein said clamping mechanism comprises a silica glass containing titanium oxide, said array of scintillators comprises yttrium gadolinium oxide and an epoxy reflector material, and said substrate comprises a ceramic; and

a flexible electrical cable electrically coupled to the photosensor array.

6. (once amended) A finished detector module in accordance with Claim 4 wherein said gap is filled with air.

7. (once amended) A finished detector module assembly suitable for use in a computed tomography (CT) imaging system, said detector module comprising:

a substrate;

a photosensor array mounted on the substrate;

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an array of scintillators optically coupled to said photosensor array and separated therefrom by a gap, said gap filled with a member of the group consisting of air and a compliant clear film;

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a clamping mechanism clamping said array of scintillators in place above and aligned with said photosensor array, wherein said photosensor array and said array of scintillators have facing surfaces, and wherein at least one of said facing surfaces is coated with an antireflection film, wherein said surface of said array of scintillators is coated with said antireflection film; and

a flexible electrical cable electrically coupled to the photosensor array.

12
15. (once amended) A finished detector module in accordance with Claim 4 wherein said gap is filled with a compliant, clear film.

16. (once amended) A finished detector module in accordance with Claim 15 wherein said compliant, clear film is an adhesive film.

23
18. (once amended) A finished detector module in accordance with Claim 15 wherein said compliant, clear film is a material selected from the group consisting of silicone, polyester, and acrylic materials.

19. (once amended) A finished detector module in accordance with Claim 15 wherein said compliant, clear film is selected from the group consisting of silicate and organic gels.

6.4 22. (once amended) A method in accordance with Claim 24 wherein the preformed, compliant, clear film is an epoxy-based adhesive film.

2.5 24. (once amended) A method for making a finished detector module suitable for use in computed tomography (CT) imaging systems, the finished detector module including a photosensor array optically coupled to an array of scintillators, said method comprising the steps of:

adhesively bonding a photosensor array to a substrate;

electrically bonding a flexible cable to the photosensor array;

performing a compliant, clear film into a size and shape configured for placement between and optical coupling of the photosensor array to an array of scintillators;

placing the preformed film on top of the photosensor array;

placing a scintillator array on top of the preformed film;

6.5 adhesively bonding a clamping mechanism to the scintillator array to form a scintillator/clamping mechanism assembly, wherein said step of placing the scintillator array on top of the preformed film comprises the step of adhesively bonding the clamping mechanism of the scintillator/clamping mechanism assembly to the substrate, wherein the clamping mechanism has a thermal coefficient of expansion less than the substrate.

2.6 26. (once amended) A method for making a finished detector module suitable for use in computed tomography (CT) imaging systems, the finished detector module including a photosensor array optically coupled to an array of scintillators, said method comprising the steps of:

adhesively bonding a photosensor array to a substrate;

electrically bonding a flexible cable to the photosensor array;

(11) adhesively bonding a clamping mechanism to a scintillator array to form a scintillator/clamping mechanism assembly, wherein the clamping mechanism has a thermal coefficient of expansion less than the substrate; and

adhesively bonding the clamping mechanism of the scintillator/clamping mechanism assembly to the substrate so that a surface of the scintillator opposes a surface of the photosensor array across an air gap.

IN THE ABSTRACT

Please delete the Abstract and replace therefore with the following replacement Abstract:

a7 A finished detector module suitable for use in a computed tomography (CT) imaging system is provided. The finished detector module includes a substrate; a photosensor array mounted on the substrate; an array of scintillators optically coupled to the photosensor array and separated therefrom by a gap filled with either air or a compliant clear film, and a flexible electrical cable electrically coupled to the photosensor array.

REMARKS

Claims 1-30 are pending in this application. Claims 1-30 stand rejected. Claims 1-3, 9-10, 17, 20-21, 23, and 27 have been canceled.

In accordance with 37 C.F.R. 1.136(a), a one month extension of time is submitted herewith to extend the due date of the response to the Office Action dated September 19, 2002, for the above-identified patent application from December 19, 2002, through and including January 21, 2003. In accordance with 37 C.F.R. 1.17(a)(1), authorization to charge a deposit account in the amount of \$110.00 to cover this extension of time request also is submitted herewith.